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Anti-Arc Picoband Antibody

Catalog # ABO12439

Product Information

Application	WB
Primary Accession	Q7LC44
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Activity-regulated cytoskeleton-associated protein(ARC) detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	23237
Other Names	Activity-regulated cytoskeleton-associated protein, ARC/ARG3.1, Activity-regulated gene 3.1 protein homolog, Arg3.1, ARC {ECO:0000312|EMBL:AAG33705.1}
Calculated MW	45316
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Mouse, Rat
Subcellular Localization	Cytoplasm, cytoskeleton . Endosome . Cytoplasmic vesicle, secretory vesicle, acrosome . Cell junction, synapse, postsynaptic cell membrane, postsynaptic density . Cell projection, dendrite . Cell projection, dendritic spine . Cell junction, synapse . Associated with the cell cortex of neuronal soma and dendrites. Enriched in postsynaptic density of dendritic spines. Associated with the sperm tail (By similarity). Enriched on the plasma membrane. .
Source	Eukaryota
Protein Name	Activity-regulated cytoskeleton-associated protein
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Arc (332-366aa KLKRFLRHPLPKTLEQLIQRGMEVQDDLEQAAEPA), different from the related mouse sequence by two amino acids, and from the related rat sequence by three amino acids.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

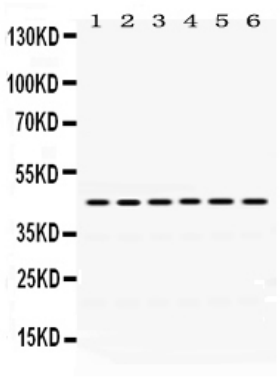
Name	ARC {ECO:0000303|PubMed:10970730, ECO:0000312|HGNC:HGNC:648}
Function	Master regulator of synaptic plasticity that self-assembles into virion-like capsids that encapsulate RNAs and mediate intercellular RNA transfer in the nervous system. ARC protein is released from neurons in extracellular vesicles that mediate the transfer of ARC mRNA into new target cells, where ARC mRNA can undergo activity-dependent translation. ARC capsids are endocytosed and are able to transfer ARC mRNA into the cytoplasm of neurons. Acts as a key regulator of synaptic plasticity: required for protein synthesis- dependent forms of long-term potentiation (LTP) and depression (LTD) and for the formation of long-term memory. Regulates synaptic plasticity by promoting endocytosis of AMPA receptors (AMPARs) in response to synaptic activity: this endocytic pathway maintains levels of surface AMPARs in response to chronic changes in neuronal activity through synaptic scaling, thereby contributing to neuronal homeostasis. Acts as a postsynaptic mediator of activity-dependent synapse elimination in the developing cerebellum by mediating elimination of surplus climbing fiber synapses. Accumulates at weaker synapses, probably to prevent their undesired enhancement. This suggests that ARC-containing virion-like capsids may be required to eliminate synaptic material. Required to transduce experience into long-lasting changes in visual cortex plasticity and for long-term memory (By similarity). Involved in postsynaptic trafficking and processing of amyloid-beta A4 (APP) via interaction with PSEN1 (By similarity). In addition to its role in synapses, also involved in the regulation of the immune system: specifically expressed in skin-migratory dendritic cells and regulates fast dendritic cell migration, thereby regulating T-cell activation (By similarity).
Cellular Location	Extracellular vesicle membrane {ECO:0000250|UniProtKB:Q63053}; Lipid-anchor {ECO:0000250|UniProtKB:Q9WV31}. Postsynaptic cell membrane {ECO:0000250|UniProtKB:Q9WV31}; Lipid-anchor {ECO:0000250|UniProtKB:Q9WV31}. Synapse {ECO:0000250|UniProtKB:Q63053} Postsynaptic density {ECO:0000250|UniProtKB:Q63053}. Early endosome membrane {ECO:0000250|UniProtKB:Q63053}. Cell projection, dendrite {ECO:0000250|UniProtKB:Q63053}. Cytoplasm, cytoskeleton. Cytoplasm, cell cortex {ECO:0000250|UniProtKB:Q63053}. Cell projection, dendritic spine {ECO:0000250|UniProtKB:Q63053}. Cytoplasmic vesicle, secretory vesicle, acrosome {ECO:0000250|UniProtKB:Q9WV31}. Cytoplasmic vesicle, clathrin-coated vesicle membrane. Note=Forms virion-like extracellular vesicles that are released from neurons Enriched in postsynaptic density of dendritic spines. Targeted to inactive synapses following interaction with CAMK2B in the kinase inactive state. Accumulation at weaker synapses may be required to prevent their undesired enhancement. Associated with the cell cortex of neuronal soma and dendrites (By similarity). Associated with the sperm tail (By similarity). {ECO:0000250|UniProtKB:Q63053, ECO:0000250|UniProtKB:Q9WV31}

Background

ARC, officially called activity-regulated cytoskeleton-associated protein, is a plasticity protein first

characterized in 1995. It is a member of the immediate-early gene (IEG) family. The ARC gene is mapped to chromosome 8q24. It has got 460 amino acid protein which shares significant similarity with rat Arc. The Arc is highly expressed in heart, brain, lung, skeletal muscle, pancreas, prostate and testis and has got weak expression in small intestine, colon, and peripheral blood leukocytes. Arc is widely considered to be an important protein in neurobiology and also a significant tool for systems neuroscience.

Images



Anti- Arc Picoband antibody, ABO12439, Western blottingAll lanes: Anti Arc (ABO12439) at 0.5ug/mlLane 1: Rat Brain Tissue Lysate at 50ugLane 2: Rat Testis Tissue Lysate at 50ugLane 3: Mouse Brain Tissue Lysate at 50ugLane 4: PANC Whole Cell Lysate at 40ugLane 5: HELA Whole Cell Lysate at 40ugLane 6: MCF-7 Whole Cell Lysate at 40ugPredicted bind size: 45KDObserved bind size: 45KD